INFORMATION LETTER

Not for Publication — NATIONAL CANNERS ASSOCIATION — For Members Only

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Secretary of Commerce Cites Canners and Canning Industry

Secretary of Commerce Charles Sawyer last night cited the canning industry as an example of how "American business benefits the people." In an address before advertising men in White Sulphur Springs, W. Va., he said, in part:

"The accomplishments of American business have been extraordinary. A few weeks ago I learned a little known fact which illustrates the way in which American business benefits the people. Today, the American housewife can buy a can of peas for less than it cost her during the depression. In spite of inflation in food prices and the increase in the wages of industrial workers and the much higher returns to the farmer, the processor, the wholesaler, and the retailer, this product — improved in quality — is bought by the consumer at a lower price than it was bought during the period of low prices and depressed economic conditions.

"Behind this startling statement is written a fascinating story of business achievement—a story of teamwork by scientists, farmers, investors, engi-

(Please turn to page 142)

Equivalent Processes for Peas In No. 303 Jars

At the February 1 meeting of the N.C.A. Processing Committee on Foods in Glass Containers, processes for peas in No. 303 jars at temperatures of 245°F. and 250°F. were unanimously adopted for inclusion in subsequent editions of Bulletin 30-L, *Processes for Low-Acid Foods in Glass Containers.* These processes are equivalent to the 240°F. process presently listed in the Bulletin.

It is suggested that canners insert the schedule in their copies of Bulletin 30-L.

The complete processing schedule suggested for peas in the 303 x 411 glass jar is as follows:

Peas

Jar size	Dimensions	Retort temperature *Deg.F.*	Time *Min.*
303	303x411	240	45
		245	35
		250	25

New Building To Be Dedicated June 8, during Board Sessions

The new Washington headquarters of the National Canners Association, construction of which is now being completed at 1133 20th Street, N. W., will be formally dedicated on Thursday, June 8, it is announced by the N.C.A. Buildings Committee.

The Spring meeting of the Board of Directors, usually held in May, has been postponed to coincide with the dedication ceremonies and the following schedule has been decided upon:

Tuesday, June 6—Administrative Council Meeting
Wednesday, June 7—Board Meeting
Thursday, June 8—Dedication Ceremonies

Following are the principal events that will constitute the dedication ceremonies:

10 a. m.—A brief service at the building at which time the Buildings Committee will turn over the building keys to President Taylor.

11 a. m.—Unveiling of portrait of Frank E. Gorrell.

12:30 p. m.—Luncheon at Mayflower Hotel, with dedication speakers (to be announced).

The building will be open for inspection by invited guests throughout office hours June 8.

Preparations are being made for the publication of a souvenir program of the dedication events. Printing of invitations, which are to be mailed out shortly, is under way.

Each N.C.A. member-firm, each contributor to the Buildings Fund from the allied industries, and state secretaries will receive a formal invitation to attend.

Obviously, the Association is unable to pay expenses of those who will come to Washington for the ceremonies, except those individuals who will be in the city on official N.C.A. business, such as members of the Council, Board, Committees that are called, and state secretaries, whose expenses will be met, as is the practice. Members of these groups will receive individual invitations to the dedication.

It is planned to mail the formal RSVP invitations April 15. They will be addressed to member firms and contributing firms, leaving the option of selection of the individual to represent them up to each firm. Each invitation will be ac- *(Please turn to page 142)*

INSECTICIDES

Food and Drug Pesticide Tolerance Hearings

Following is a summary, prepared by Association Counsel and staff, of the proceedings at the FDA hearing on insecticide tolerances from March 20 through March 29, 1950.

Testimony by representatives of state agricultural experiment stations and other state agricultural agencies at the FDA Insecticide Tolerance Hearings was concluded during the period of March 20-29.

Testimony during the week March 20-24 was contributed by representatives of Florida, Michigan, South Carolina, North Carolina, and West Virginia.

Six Florida growers—W. D. Miller, L. B. Fisher, G. H. Cooper, H. J. Thurston, F. R. Brown and R. Y. Creech—gave detailed testimony on the spray schedules used on their vegetable farms. Brown, a celery grower from Sarasota, said that he applies about 16 sprays to a growing celery crop. During the first 8 or 9 sprays, arsenic is used for worms, cuprocide for celery diseases, parathion for aphids, DDT for thrips, and chlordane for control of cricket moles in the seedbed. During the last five weeks no insecticide is used for control of worms and TEPP is used for control of aphids instead of parathion. Mr. Brown stated that he did not use BHC on celery because of the off-flavor it gives the celery. Creech said that celery growers in the Belle Glade area of Florida have almost discontinued using arsenic and instead use dithane or DDT in alternate sprayings with aphicides such as parathion.

Dr. Ralph W. Cummings, associate director in charge of the North Carolina Agricultural Experiment Station, gave an introductory statement for the witnesses from North Carolina. Dr. C. F. Smith, entomologist from the North Carolina Agricultural Experiment Station, said that borers, scale, curculio and the Oriental fruit moth would destroy or nearly destroy the entire North Carolina peach crop unless insecticides were used. In 1947, worm infestation was reduced to 10 percent largely because of the use of the new organic insecticides. There are signs of a growing resistance by some insects to lead arsenate; it now takes 14 days to get the same control as was formerly obtained in 7. Dr. Smith stated that in 1947, taste tests on the flavor effects of chlordane, toxaphene, parathion, BHC and lead arsenate used in various schedules disclosed that BHC was the only insecticide which caused an objectionable off-flavor in the fruit. The BHC did not cause off-flavor if not used later than 10 days after the shuck-off spray. Tests conducted in 1949 on the same insecticides did not disclose any discernible taste difference caused by their use. Dr. Smith introduced a statement by Dr. Fulton of the North Carolina Agricultural Experiment Station concerning insect pests of blueberries, dewberries, raspberries, blackberries,

Dr. C. M. Clayton, pathologist in control of fruit disease investigation at the North Carolina Agricultural Experiment Station, said that without the use of fungicides, production of pome and stone fruits in North Carolina would be impossible. Because of the peculiar climatic condition of the southeastern states, growers in that area are confronted with fruit disease problems not found in other parts of the country. For control of these diseases, reliance is placed upon lime sulfur, wettable sulfur, fixed copper compounds, ferbam and bordeaux mixture. They are not satisfactory in all respects and continued experiments are being conducted to develop new controls.

Dr. Paul O. Ritcher, entomologist in charge of vegetable crop pest investigation at the North Carolina Agricultural Experiment Station, discussed the insects which attack fruit vegetables, leafy vegetables, green crops, brassicas, root and tuber crops, sweet corn and others.

Dr. D. E. Ellis, associate plant pathologist at the North Carolina Experiment Station at Raleigh, discussed vegetable plant diseases in general with particular emphasis upon cucumber downy mildew and late blight of fruit vegetables, lettuce damping-off of leafy vegetables and stem anthracnose of lima beans. Among the chemicals which have been proved to be necessary as fungicides or which show promise are copper, ziram, ferbam, zineb, copper oxychloride, tribasic copper sulfate, thiram, spergon, semesan and cuprous oxide. Dr. Ellis said that without the use of fungicides commercial production of many vegetables is impossible.

Testimony from Michigan was begun by Ray Hutson, professor of entomology at the Michigan State Experimental Station, who outlined the insect and disease problems faced by Michigan fruit and vegetable growers and their suggested chemical controls. Among the materials recommended for control of cherry insects and diseases were DN compounds, bordeaux, lead arsenate, fermate and copper; if aphids are present, parathion or nicotine sulfate are recommended. The regular peach spray schedule recommends the use of lime sulfur, DN compounds, bordeaux and DDT while the alternate schedule includes the use of BHC and chlordane as well as the others. Mr. Hutson said that for pear insect and disease control oil, bordeaux, lead arsenate and DDT are recommended. For control of corn borer on sweet corn, ryania is recommended, and DDT or ethylene dibromide as soil treatments are recommended for control of the wireworm. The spray schedule for raspberry and strawberry insects and diseases includes lime sulfur, fermate and lead arsenate. If aphids are present, parathion should be used but only before the blooming period and not with lime sulfur or copper lime sprays because it is not compatible with them. The melon aphid on cucumbers can be controlled with 4 percent nicotine dust or 1 percent TEPP. Sabadilla will control the squash bug; and calcium arsenate, rotenone or cryolite are recommended for control of the cucumber beetle. Rotenone plus parafine, 5 percent DDT dust or TEPP dust are used for pea aphid control. Cutworms are one of the biggest insect problems for Michigan truck crops and 5 percent DDT dust is its most usual control but some chlordane is used. Rotenone, DDT, lead and calcium arsenate, nicotine sulfate, toxaphene and chlordane are recommended for control of asparagus insects but toxaphene and chlordane are not used on the edible portions of the plants. Mr. Hutson's testimony also dealt with the necessity for using compatible chemical controls and the high cost of insecticide spraying.

Donald Cation, associate professor in plant pathology at Michigan State College, listed the fungicides and soil fumigants which are in use or are being experimentally tested in Michigan. Among those named were the sulfurs, bordeaux mixtures, copper sulfate and fixed coppers, ferbam, nabam, zineb, CR-305, carbon disulfide, urea, Tag 331, mercuric dichloride, organic mercury, elgetol, arathane, calcium cyanide and SR-406. He said that SR-406 has shown unusual promise as a control of cherry leaf spot. These chemicals are used to control diseases found on apples, pears, peaches, grapes, raspberries, currants, gooseberries, quinces, cherries, strawberries and plums. The witness had no residue data but said that most fungicide residue would be negligible.

Dr. E. R. Benne, research professor of agricultural chemistry at Michigan State College, presented residue data, experimentally determined under his direction at Michigan, on lead arsenate, DDT and parathion. The lead arsenate residue varied from 0.0 to .003 grains per pound; DDT residue varied from 0.0 to 7.4 ppm; and parathion residue varied from 0.0 to a maximum of 1.09 ppm. Dr. Benne said that DDT residue removal experiments showed that brushing and washing would remove an average of 30 percent of the residue and a maximum of 41 percent. Other experi-

ments showed parathion residue decreased rapidly as the time interval between application and testing was increased. He said that accurate residue analysis is a very difficult chemical problem which requires proper scientific tools and a specific analytical method for each insecticide. He said that the total chlorine method of residue determination was an example of an unsatisfactory analytical method because of its lack of specificity.

Dr. Milton D. Farrar, professor of entomology at the Agricultural Experiment Station, Clemson, S. C., stated that peaches and many other fruits and vegetables could not be commercially grown in South Carolina without the use of insecticides. He estimated that all peaches would be lost if chemicals could not be used by the growers. Among the insecticides discussed as controls of peach insects were lead arsenate, HETP, BHC, parathion, chlordane, DDT, DDD and methoxychlor. BHC and parathion have proved to be particularly effective controls of insects inside the peach. Parathion is an outstanding control of the Oriental fruit moth; and DDT, DDD and methoxychlor all show some effectiveness against this insect. Chlordane and parathion did not cause an off-flavor in fresh, frozen and canned peaches but the BHC did. As the number of applications of BHC increased, the off-flavor intensity showed a corresponding increase. It is the state recommendation that BHC should not be applied to peaches after the shuck-off period.

Dr. C. F. Taylor, professor of plant pathology at West Virginia Agricultural College, presented a statement to the effect that a variety of agricultural chemicals is required for commercial production of fruits and vegetables and that continued research for the development of new spray chemicals is a necessity.

Witnesses from Kansas, Wisconsin, Illinois, Oklahoma and Arkansas testified at the sessions of the Insecticide Tolerance Hearings during the period March 24-29.

Dr. Ralph L. Parker, professor of entomology at Kansas State College, spoke on the codling moth and the need for insecticides for its control.

Dr. T. C. Allen, chairman of the department of entomology at the University of Wisconsin, stated that the forty-seven million dollar Wisconsin vegetable crop requires the use of insecticides for successful commercial production.

One of the most important crops grown in the area is peas. Experience has proved that the pea aphid can be controlled only by chemicals. Extensive tests have shown that the older insecticides such as nicotine, rotenone, sulfur and thiocyanate are not as effective as DDT and the organic phosphates. Various formulations and combinations of DDT, parathion and other new materials have consistently given over 90 percent control of the aphids as compared to around 75 percent control by the older insecticides.

Because some pea vines are used for livestock feed, there has been a determined effort to reduce the amount of insecticide residue which might remain on the vine and contaminate the milk or meat produced from it. To accomplish this, state recommendations have suggested the use of residual sprays and dusts before bloom and non-residual insecticides for post bloom applications. DDT, in both spray and dust formulations, is included in the first group while highly volatile insecticides such as parathion, TEPP and rotenone are included in the second group.

Dr. Allen introduced an exhibit containing analyses of 23 samples of peas taken from DDT sprayed plots, none of which showed any evidence of residue. He said that present insecticides employed for the control of the pea aphid do not contaminate the peas because they are applied before the peas are shelled. When 50 pounds per acre of 5 percent DDT are used, the pea silage shows an immediate residue of 9 to 13 ppm, 5 ppm 60 days after application, 3 ppm 95 days later and no residue after 160 days.

Dr. Allen said that the higher concentrations of ryania, parathion and DDT have shown more efficiency than toxaphene and some of the other materials which have been tested as controls of corn borer infestation of sweet corn. He said that the striped cucumber beetle is the most serious pest of the cucurbits in Wisconsin and is followed in importance by the spotted cucumber beetle, the squash bug, vine borer and the melon aphid. DDT is the most effective control of the beetle and sabadilla and DDT are both effective controls of the other insects although the DDT caused some foliage injury. By making the insecticide applications early in the season prior to the setting of the fruit, residue problems are eliminated. If applications are necessary after the fruit sets, the use of impregnated rather than mechanical mixed dusts tends to reduce the residue problem.

DDT is recommended for control of thrips on onions and the potato leafhopper on lima beans while chlordane and methoxychlor as soil treatments are recommended for control of the seed corn maggot. The major pest of beets in Wisconsin is the variegated cutworm. In tests DDT has reduced cutworm infestation by as much as 97 percent while chlordane has reduced them by 89 percent. Dr. Allen said that because the insecticides are applied to the beet tops which are left in the field, no residue problem is created. Comparative tests in 1949 of insecticidal effectiveness for corn wireworm control showed that ethylene dibromide fumigation gave 100 percent control and seed treatments with BHC, parathion and chlordane gave 70 to 90 percent control; while a combination of BHC and DDT gave less. The BHC caused some root deformity among the corn on which it was used and caused some germination reduction.

Dr. R. K. Chapman, associate professor of plant pathology at the University of Wisconsin, said that the six spotted leafhopper was the most serious pest of the Wisconsin carrot crop and that it was of importance because it transmitted the carrots' yellow disease. Of the many insecticides tested for control of the leafhopper, it was found that 2 and 3 pound concentrations of DDT spray and 5 percent or more of DDT dust were the best controls. Inasmuch as the insecticides are applied to the carrot tops and most of this portion of the plant is left in the field, Dr. Chapman said that he did not think that a residue problem could be created. He stated that parathion is the most effective control of the strawberry leafroller but when used shortly before harvest it may create a residue problem. Chlordane and rotenone are the best controls of the meadow spittle bug; DDT, sabadilla and BHC have proved to be ineffective against this insect. DDT is the best control of potato insects and the dithiocarbamates are the best controls of potato diseases.

Dr. Chapman said that the cabbage crop is infested by imported cabbage worms, cabbage loopers, cabbage aphids and diamondback moths. If the worms and aphids as well as the other insects are not controlled, the entire crop may be lost. DDT when used at the rate of one-half lb. per acre, has given 93 percent control of the worms and 92 percent control of the looper. TDE and parathion also gave good control of these insects and pyrethrum was fair but BHC, HETP and chlordane were ineffective. Rotenone gives good worm control but is ineffective against the looper. Parathion and TEPP give good control of the aphids under climatic conditions which prohibit the use of nicotine; BHC and chlordane are ineffective against the aphids. Because of removal of outer cabbage leaves prior to marketing and washing and brushing prior to its usage for making kraut, the witness thought that the insecticide residue problem on cabbage would be negligible.

Among the most serious pests of the Wisconsin sour cherry crop are the cherry casebearer, buffalo treehopper and the black cherry aphid. All of them can be controlled by the application of sprays at a time when no residual deposits will be left on the fruit. Other cherry insects such as the plum curculio, fruitworm, prune worm and fruit fly do require applications after the fruit has set and may result in residue problems. Lead arsenate, DDT and methoxychlor are

being used or tested for control of these insects but the witness had no residue data on them.

The only witness from Illinois was Dr. George C. Decker, entomologist in charge of economic entomology for the Illinois State Natural History Survey and the University of Illinois. Although his testimony was chiefly concerned with the insects which attack sweet corn, he also briefly mentioned the codling moth and plum curculio. Dr. Decker stated his opinion that chemical control of fruit and vegetable insects is necessary, that culture sanitation is not a sufficient control and that growers should have a wide variety of chemicals available for use because no one of them is the complete answer to the insect problem.

The two major sweet corn insects are the European corn borer and the corn earworm. Dr. Decker said that because of the corn borer, it is impossible to produce a marketable crop of sweet corn in Illinois without the use of insecticides. Early insecticide controls were rotenone and nicotine and although they are still of some value, DDT, ryania and parathion have proved to be superior. Applications of DDT emulsion gave 98 percent borer free corn while untreated plots resulted in only 8 percent of uninfested corn. There was also an increase in yield of 22 percent to 28 percent. Although early planted canning corn is not as severely infested with corn borers as later planted corn which is subject to second generation borers, insecticides are necessary so as to produce sufficient and acceptable corn for the canneries. No matter what the effort, trimming and sorting at the cannery cannot cope with the degrees of corn borer infestation which may result when no insecticide is used. It was Dr. Decker's opinion that any infestation of over 20 percent would be more than could be successfully handled at the cannery.

Of particular interest in his testimony was new evidence that mineral oil when added to DDT spray adds materially to the effectiveness of the spray and that the combination is effective against both the borer and earworm. Three treatments with a spray containing 3 quarts of 25 percent DDT emulsion, 2½ gallons of mineral oil and 46¾ gallons of water applied per acre gave corn which was 99 percent free of corn borer, 98 percent free of corn earworm and 97 percent insect free.

As for residues, Dr. Decker said tests show that the husks of the ear so protect the corn that no significant amount of residue remains on the kernels even after 4 applications of DDT dust. Residual tests of insecticides experimentally used for control of the codling moth and plum curculio show that parathion disappears most rapidly with BHC, aldrin, chlordane, dieldrin, toxaphene and DDT following in that order. Dr. Decker said that BHC, chlordane, aldrin, dieldrin and parathion were all superior to lead arsenate as controls of the plum curculio on peaches. Lindane and aldrin are effective against the chinch bug; toxaphene, DDT and chlordane against army worms, grasshoppers and cutworms; and ethylene dibromide, BHC, lindane, chlordane, aldrin and DDT are useful for control of soil insects such as wireworms.

R. R. Walton, assistant entomologist at the Oklahoma Agricultural Experiment Station, spoke on the kinds and importance of the insects which infest greens (spinach, turnip and mustard greens and kale) grown for canning in the Arkansas River valley of Oklahoma and Arkansas. The most damaging pest of these crops is the aphid, but the diamond-back moth, cabbage looper, corn earworm and crown maggot are also of serious importance to the grower. Predatory insect and cultural controls are neither sufficient nor satisfactorily efficient for control of these insects and the use of insecticides is a necessity.

Mr. Walton gave a detailed report on the results of tests to control these insects. He said that:

> Twenty-eight insecticide formulations, including 14 different toxicants, were tested in 11 field and laboratory tests to control aphid and larval pests.
>
> The toxicants that proved to be effective against aphids were those that possessed a relatively high degree of volatility or "fuming action". Toxicants in this group were parathion, lindane, the methyl analog of parathion, tetraethyl pyrophosphate, benzene hexachloride, and nicotine sulphate. Parathion and lindane were the most consistently effective aphicides. The results indicated that the methyl analog of parathion was equally effective. Benzene hexachloride was also effective on aphids but imparted an off-flavor to the treated plants. Tetraethyl pyrophosphate gave a high degree of control when applied on dry plants, but was greatly reduced in effectiveness when applied to wet foliage. Nicotine sulphate produced a high percentage of mortality when used at a temperature of 78°F. but was essentially ineffective when treatment was made at temperatures ranging from 57° to 61°F. A number of other toxicants, including rotenone, pyrethrins, sabadilla, piperonyl cyclonene, piperonyl butoxide, DDT, chlordane, and toxaphene, were unsatisfactory in field tests to control aphids.
>
> A total of 11 toxicants were included in three tests to control the diamond-back moth larva. DDT, parathion, the methyl analog of parathion, and toxaphene were the most effective in controlling the diamond-back moth larva and the cabbage looper in these tests. Lindane, tetraethyl pryophosphate, and chlordane were considerably less toxic. Mixtures of piperonyl cyclonene and of piperonyl butoxide with rotenone and pyrethrins were relatively ineffective.
>
> In a preliminary field test including parathion, the methyl analog of parathion, and lindane, the first two materials showed some promise for controlling the corn earworm on spinach. Lindane was relatively ineffective against the earworm.
>
> Spinach treated with either parathion, the methyl analog of parathion, or lindane has no definite off-flavor when harvested and canned at 10 days and 20 days after treatment.
>
> Mustard that grew rapidly after treatment with a DDT dust at a rate of 1 pound of toxicant per acre, contained only a trace of organic chlorides when harvested and canned 8 days after treatment.
>
> Chemical analyses of spinach harvested and canned 10 days after being treated with parathion or the methyl analog of parathion showed the amount of parathion to be less than .02 ppm.

The last three witnesses were Mike Myers of Van Buren, Ark.; Lee Tyler of Keota, Okla., and Kenneth Stone of Porter, Okla. All three were growers of spinach, mustard, kale and turnip greens. They were emphatic in their opinion that insecticides were a necessity in order to insure successful commercial production. Mr. Stone made the particular point that growers in his area wanted exact residue tolerances established so that contract differences with canneries as to crop acceptance and rejection would be minimized.

Invitations for Bids

Quartermaster Purchasing Offices—111 East 16th Street, New York 3, N. Y.; 1819 West Pershing Road, Chicago 9, Ill.; Oakland Army Base, Oakland 14, Calif.

Veterans Administration—Procurement Division, Veterans Administration, Wash. 25, D. C.

The Walsh-Healey Public Contracts Act will apply to all operations performed after the date of notice of award if the total value of a contract is $10,000 or over.

The Quartermaster Corps has invited sealed bids to furnish the following:

FRUIT JELLIES—400 dozen one-pound jars each of apple, grape, and apple-strawberry jelly, f.o.b. origin. Bids due at Chicago under Bid No. QM-11-183-50-720 by April 28.

The Veterans Administration has invited sealed bids to furnish the following:

KADOTA FIGS (Choice)—2,000 dozen No. 10 cans, f.o.b. destination. Bids due under Invitation No. 218-S by April 18.

APRICOTS (Grade D)—625 dozen No. 10 cans, f.o.b. destination. Bids due under Invitation No. 220-S by April 19.

PEACHES (Choice)—3,250 dozen No. 10 cans, f.o.b. destination. Bids due under Invitation No. 221-S by April 19.

STATISTICS

Canned Fruit and Vegetable Stocks and Shipments

Reports on canners' stocks and shipments of canned applesauce, apricots, sweet cherries, peaches, pears, green and wax beans, beets, tomatoes, and tomato juice have been compiled by the Association's Division of Statistics, and detailed reports have been mailed to all canners packing these items.

Canned Applesauce Stocks and Shipments

	1948–49	1949–50
	(actual cases)	
Carryover, June 1	2,579,727	299,113
Pack	4,839,920	8,690,702
Total supply	7,419,647	8,989,815
Stocks, March 1	(a)	3,247,014
Shipments during Feb.	(a)	451,589
Shipments, June 1 to March 1	(a)	5,742,801

(a) Not compiled.

Canned Apricot Stocks and Shipments

	1948–49	1949–50
	(cases—basis 24/2½'s)	
Carryover, June 1	706,000	1,522,000
Pack	4,767,000	2,375,000
Total supply	5,473,000	3,897,000
Stocks, March 1	2,450,000	1,195,000
Shipments during Feb.	286,000	256,000
Shipments, June 1 to March 1	3,023,000	2,702,000

Sweet Cherry Stocks and Shipments

	1948–49	1949–50
	(cases—basis 24 2½'s)	
Carryover, June 1	23,000	65,000
Pack	839,000	1,678,000
Total supply	862,000	1,743,000
Stocks, March 1	161,000	595,000
Shipments during Feb.	25,000	98,000
Shipments, June 1 to March 1	701,000	1,148,000

Canned Peach Stocks and Shipments

	1948–49	1949–50
	(cases—basis 24/2½'s)	
Carryover, June 1	1,877,000	3,518,000
Pack	17,381,000	19,134,000
Total supply	19,258,000	22,652,000
Stocks, March 1	7,119,000	8,644,000
Shipments during Feb.	1,256,000	1,816,000
Shipments, June 1 to March 1	12,139,000	14,008,000

Canned Pear Stocks and Shipments

	1948–49	1949–50
	(cases—basis 24/2½'s)	
Carryover, June 1	703,000	788,000
Pack	3,993,000	5,904,000
Total supply	4,786,000	6,692,000
Stocks, March 1	1,800,000	2,232,000
Shipments during Feb.	335,000	471,000
Shipments, June 1 to March 1	2,986,000	4,460,000

Green and Wax Bean Stocks and Shipments

	1948–49	1949–50
	(actual cases)	
Carryover, July 1	218,582	329,031
Pack	14,133,205	19,302,855
Total supply	14,351,787	19,631,886
Stocks, March 1	2,265,468	5,386,719
Shipments during Feb.	1,242,434	1,213,118
Shipments, July 1 to March 1	12,086,319	14,245,167

Canned Beet Stocks and Shipments

	1948–49	1949–50
	(actual cases)	
Carryover, July 1	222,516	64,712
Pack	4,601,651	7,922,938
Total supply	4,824,167	7,987,650
Stocks, March 1	743,314	2,609,768
Shipments, Jan. and Feb.	723,995	1,118,840
Shipments, July 1 to March 1	4,080,853	5,377,882

Canned Tomato Stocks and Shipments

	1948–49	1949–50
	(actual cases)	
Carryover, July 1	1,949,713	2,718,555
Pack	21,466,688	18,873,672
Total supply	23,416,401	21,592,227
Stocks, March 1	7,678,623	6,232,196
Shipments during Feb.	2,064,477	1,900,057
Shipments, July 1 to March 1	15,737,778	15,360,031

Canned Tomato Juice Stocks and Shipments

	1948–49	1949–50
	(actual cases)	
Carryover, July 1	3,578,479	5,740,779
Pack	23,701,199	20,559,673
Total supply	27,279,678	26,300,452
Stocks, March 1	12,816,350	10,270,977
Shipments during Feb.	2,085,206	2,559,805
Shipments July 1 to March 1	14,463,328	16,029,475

Wholesale Distributor Stocks of Canned Foods

Summaries showing wholesale distributors and canners' stocks of specified canned foods, compiled by the Bureau of the Census and combining canners' stock totals of the N.C.A.'s Division of Statistics, are shown below:

Table I—Wholesale Distributors and Canners' Stocks of Specified Canned Foods
(Includes Warehouses of Retail Food Chains)

Commodity	March 1, 1950		March 1, 1949	
	Distributors	Canners	Distributors	Canners
	(in thousands of actual cases)			
Vegetables:				
Beans, green and wax	3,736	5,387	3,286	2,265
Corn	6,943	18,316	7,657	12,610
Peas	5,618	7,295	6,556	10,413
Tomatoes	4,999	6,232	5,217	7,679
Fruits:				
Apricots	865	1,257	1,069	2,524
Fruit cocktail [1]	1,683	5,865	1,983	6,081
Peaches	4,190	9,156	4,416	7,294
Pears	1,008	2,421	782	1,961
Pineapple	3,940	4,007	1,994	2,575
Juices:				
Tomato [2]	3,251	16,271	3,054	12,816
Grapefruit	1,563	[3] 2,338	1,663	[3] 2,897
Orange	2,391	5,474	1,785	3,310
Citrus blends	854	1,769	890	1,927
Pineapple	1,660	3,387	1,443	1,134

[1] Includes fruits for salad and mixed fruits (except citrus). [2] Includes also vegetable juice combinations containing at least 70 percent tomato juice. [3] Basis 24/2's, Florida only, as of March 4, 1950.
Source of canners' stocks: National Canners Association, Pineapple Growers Association of Hawaii, and Florida Canners Association.

Table II—Wholesale Distributors Stocks of Specified Canned Foods
(Includes Warehouses of Retail Food Chains)

Commodity	Total		All sizes smaller than No. 10		Institution sizes, all sizes No. 10 or larger	
	Mar. 1, 1950	Feb. 1, 1950	Mar. 1, 1950	Feb. 1, 1950	Mar. 1, 1950	Feb. 1, 1950
	(in thousands of actual cases)					
Vegetables:						
Beans, green and wax	3,736	3,806	2,985	2,984	751	822
Corn	6,943	6,390	6,381	5,815	562	575
Peas	5,618	5,589	5,006	4,974	612	615
Tomatoes	4,999	4,986	4,244	4,218	755	768
Fruits:						
Apricots	865	942	705	775	160	167
Fruit cocktail [1]	1,683	1,685	1,479	1,473	204	212
Peaches	4,190	4,478	3,457	3,797	733	681
Pears	1,008	1,045	823	869	185	176
Pineapple	3,940	4,305	3,487	3,763	453	542
Juices:						
Tomato [2]	3,251	2,990	3,066	2,820	185	170
Grapefruit	1,563	1,030	1,540	1,014	23	16
Orange	2,391	1,827	2,367	1,800	24	27
Citrus blend	854	608	845	602	9	6
Pineapple	1,660	1,768	1,623	1,726	37	42

[1] Includes fruit for salad and mixed fruits (except citrus). [2] Includes also vegetable juice combinations containing at least 70 percent tomato juice.

Canned Baby Food Stocks

Details of the canned baby food supply, stock and shipment situation, as reported by the Association's Division of Statistics, are presented below:

	1949	1950
	(thousands of dozens)	
Canner stocks, Jan. 1	53,782	55,341
Pack, Jan. and Feb.	19,190	18,217
Supply	72,972	73,558
Canner stocks, March 1	53,128	52,805
Canner shipments, Feb.	9,377	9,770
Canner shipments, Jan. and Feb.	19,844	20,753

1949 Tomato Pulp Pack

The 1949 tomato pulp pack amounted to 3,091,551 actual cases, compared with last year's pack of 2,876,842 actual cases, the Association's Division of Statistics reports. On the basis of 6/10's, the 1949 pack was 3,060,794 cases as compared with the 1948 pack of 2,789,605 cases basis 6/10's.

1949 Tomato Pulp Pack

	1948	1949
	(actual cases)	
New York	118,545	102,363
Maryland-Delaware	125,112	135,480
N. J. and Pa.	271,938	404,194
Ohio	106,968	125,406
Indiana	739,708	269,004
Michigan	93,071	95,770
Utah and Idaho	88,768	214,113
California	969,064	1,551,946
Other states	363,668	193,275
U. S. Total	2,876,842	3,091,551

Dedication of New Building

(Concluded from page 137)

companied by a return card. It is of great importance that the cards be filled out and returned promptly, since it is planned to print in the souvenir program all names of those who attend, as well as the table seating arrangement for the luncheon. It will be necessary for the Association to have all names in by May 8 so as to include them in the printed souvenir program.

Secretary of Commerce

(Concluded from page 137)

neers and distributors. It involves the use of formerly unused summer-fallow land in the states of Washington, Oregon and Idaho, the building of highly efficient plants in the areas where peas are grown, a new process of coating steel with tin by electrolytic methods, a market expanded by wise and extensive advertising, and better methods of moving and delivering the product to the consumer."

1950 Canners Directory

A few N.C.A. members have not returned the forms providing data for the 1950 *Canners Directory*. The absence of this information is delaying publication. If you have not sent in your data (firm name, address, locations of plants, and canned products packed in each plant), please do so at once. Forms will close on receipt of mail April 10.

PERSONNEL

Northwest Canners Association

The Northwest Canners Association recently elected the following officers for 1950:

President—T. E. McCaffray, National Fruit Canning Co., Seattle, Wash.; first vice president—George Martin, Utah Canning Co., Freewater, Ore.; second vice president—Elvin Kale, C. S. Kale Canning Co., Everson, Wash.; and executive vice president—Cecil R. Tulley, Portland, Ore. (reelected).

California Processors

The California Processors and Growers recently elected the following officers for 1950:

President—G. A. Filice, Filice & Perelli Canning, Richmond; vice president—R. G. Lucks, California Packing Corporation, San Francisco; secretary-manager—John W. Bristow, Oakland (reelected).

MEETINGS

N. H. Sanborn To Speak

N. H. Sanborn of the N.C.A. Washington Research Laboratory is scheduled to present a paper entitled "Sanitation of Pea Viner Stations" at the Sanitation Conferences to be held at Geneva, N. Y., April 4 and at Buffalo, N. Y., April 5 under the sponsorship of the Association of New York State Canners, Inc. Mr. Sanborn also will participate in a panel discussion on waste disposal.

Forthcoming Meetings

April 11—Monterey Fish Processors Association, Annual Meeting, Monterey, Calif.

May 4—Ozark Canners Association, Spring Meeting, Colonial Hotel, Springfield, Mo.

May 14-18—Super Market Institute, 13th Annual Convention, Chicago

May 21-25—Institute of Food Technologists, Decennial Conference, Edgewater Beach Hotel, Chicago

June 4-5—Michigan Canners Association, Spring Meeting, Park Place Hotel, Traverse City, Mich.

June 29-July 1—Grocery Manufacturers of America, Inc., Midyear Meeting, The Greenbrier, White Sulphur Springs, W. Va.

September 21-23—U. S. Wholesale Grocers Association, Inc., Fall Meeting, The Greenbrier, White Sulphur Springs, W. Va.

October 19-21—Florida Canners Association, 19th Annual Meeting, Palm Beach Biltmore Hotel, Palm Beach

November 13-14—Wisconsin Canners Association, 46th Annual Convention, Schroeder Hotel, Milwaukee

November 13-15—Grocery Manufacturers of America, Inc., Annual Meeting, Waldorf-Astoria Hotel, New York City

November 20-21—Michigan Canners Association, Fall Meeting, Pantlind Hotel, Grand Rapids

November 20-21—Pennsylvania Canners Association, 36th Annual Meeting, Penn Harris Hotel, Harrisburg

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